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ABSTRACT

In order to identify behavioral cues which contribute to judgments of marital satisfaction/distress, 40 undergraduate judges rated the level of marital satisfaction of 24 couples shown on videotape and then listed the behavioral cues used in making their judgments. The stimulus tapes were problem-solving interactions of both distressed and nondistressed couples. The tapes were then scored for the actual occurrence of these cues. The judges specified cues which were able to discriminate marital satisfaction and distress (R=.71) with greater validity than that of the judges themselves (r=.40). The utility of defining interpersonal behavior in terms of dyadic units is discussed. (Author)

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BEHAVIORAL CUES IN THE JUDGMENT OF MARITAL SATISFACTION

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Behavioral approaches to clinical problems seek to specify the particular responses of persons in particular situations. Thus, questions are raised as to the nature of the responses and response-consequence units displayed in situations of interest. For example, do distressed married couples behave differently than non-distressed married couples in problem-solving situations? Are these differences detectable and quantifiable?

Numerous methods for sampling couple interactions have been reported in the literature. Techniques include having couples jointly respond to Rorschach or TAT cards (e.g., Levinger, 1963; Willi, 1968), playing interaction games (e.g., Olson & Straus, 1972; Ravich, 1969), analogues of conflict resolution (e.g., Olson & Ryder, 1970; Ryder & Grodrich, 1966), and others too numerous to mention. In all of these approaches, it is assumed that the behaviors observed in the laboratory or clinic are characteristic of the couples' interactions, and that measures of task efficiency generalize to real-life problem-solving efficiency. The assumptions of trait consistency often made by such studies are questionable. On the other hand, the approach employed recently by Birchler, Weiss, and Vincent (1974) and Vincent (1972) in the Oregon studies of marital interaction sought to look at the actual utilization of supportive and aversive behaviors in the dyadic interactions of maritally distressed and non-distressed couples. Rather than employing a game-like method, these investigators sought to code the behaviors exchanged by the couples in a problem-solving situation.

In those studies, the behavioral coding system successfully differentiated the mean performances of distressed and non-distressed marital dyads in terms of overt behaviors.

In the present study, we were interested in the behavioral differences of distressed and non-distressed couples as these differences were defined by untrained judges. By using the tapes previously produced of the research couples in the Birchler-Vincent studies, we had an opportunity to sample an untrained group of judges to determine whether marital satisfaction/distress was communicated to them via the couples' overt behavior. We could then solicit from these judges the behavioral cues they used in making decisions about the couples' relationships, and finally, we could attempt to validate these cues.

In a similar study of behavioral cues, Bayes (1972) sought to establish the validity of behaviors associated with judgments of interpersonal warmth. She employed undergraduates to view videotaped segments of dyadic interactions, to rate the level of interpersonal warmth displayed by one of the persons being viewed, and then to list the behavioral cues that they had used to make their judgments. These cues were then scored for frequency of occurrence in the taped interactions, and the validity of the cues was analyzed by a multiple regression analysis with the cues as predictors of a criterion measure of interpersonal warmth. The method of the present study is similar in many ways to Bayes' procedure.

Secondarily, then, this study was also an investigation of a clinical judgment task. Naive subjects were asked to make the kind of judgments which clinicians must often make: given a set of observations about a client, what inferences can be made about his level of disturbance or

pathology? In addition to establishing the accuracy with which untrained undergraduates can make judgments as to levels of marital satisfaction, this study sought to statistically model the subjects' use of cues via multiple regression analysis, as suggested by Hoffman (1960).

A number of hypotheses about judgments of marital interactions and the utilization of behavioral cues in making these judgments were investigated.

First, the results of earlier studies of clinical judgment tasks indicate that even untrained subjects usually perform at better-than-chance levels (Goldberg, 1968). Hence, it was proposed that naive undergraduates, observing the interactions of marital dyads, can discriminate distressed and non-distressed couples.

Second, previous studies have shown that a couple's output of positive and negative social behaviors affects how they evaluate their relationship (Wills, 1972), and is related to their level of marital satisfaction (Birchler et al., 1974). Therefore, it was hypothesized that the judges' ratings of couples' marital satisfaction is related to the couples' output of positive social behaviors and their output of negative social behaviors.

Third, it was hypothesized that the behavioral cues generated by the judges can be used to discriminate distressed and non-distressed married couples.

Method

Forty undergraduates at the University of Oregon served as judges of previously recorded dyadic interactions of both distressed and non-distressed couples. For each couple, the judges made a dichotomous judgment - distressed or non-distressed - and rated their relationship on a six point scale of marital satisfaction. After this task, each judge was instructed to write

down those behavioral cues which figured into his/her judgments of the couples' relationships. By means of instructions, behavioral cues were distinguished from inferential cues in an attempt to focus the judges' responses. The cues were then categorized by two clinical graduate students unfamiliar with the study, and only those cues endorsed by at least 20% of the judges were included for further analysis.

Because of the number and length of tapes involved, the judges were assigned to groups, and each group viewed 6 of the 24 tapes. The distribution of tapes by groups is depicted in Table 1.

The tapes themselves consisted of Birchler and Vincent's original research couples as they were in the process of resolving differences generated by the Inventory of Marital Conflicts developed by Olson and Ryder (1970). These were 10 minute interactions of couples who had been classified as maritally distressed or non-distressed on the basis of two marital adjustment inventories and personal interviews. As confirmation of the validity of these classifications, it should be noted that all of the distressed couples sought marital therapy at the University of Oregon Psychology Clinic within one year of their participation in the original studies, while none of the non-distressed couples did so.

The stimulus tapes had been scored for frequency of occurrence on each of 29 behavioral codes in the original studies. However, in this study the tapes were rescored using the newly defined cue categories provided by the undergraduate judges. Our concern was with the behavioral cue profile of each tape and its relationship to the judges' ratings of the couple, and to the actual distressed-non-distressed status of the couple.

Results

The judges were correct on 152 of 240 dichotomous judgments, for a "hit rate" of 63.3%. The point biserial correlation coefficient was .40 (F = 44.7, 1/238 df), statistically very significant ($p < .0001$), but indicative of rather low accuracy. Likewise, the mean satisfaction ratings for the two groups of couples were significantly different: for the distressed couples the mean was 2.57 (SD = .69), and for the non-distressed couples the mean was 3.61 (SD = .54), (t = 3.95, $p < .001$). The judges' accuracy exceeded chance, but the "hit rate" was low.

As noted, the tapes had previously been coded by the Marital Interaction Coding System (MICS) (Hops, Wills, Patterson, & Weiss, 1971) and scores had been computed for each couple on two combination categories, Positive Social Behavior and Negative Social Behavior (Birchler et al., 1974). The mean judges' ratings of the couples were correlated with these two categories: $r = -.41$ ($p < .01$) with Negative Social Behavior, and $r = .05$ (n.s.) with Positive Social Behavior. Occurrences of negative behavior were associated with the judges' ratings of marital distress, indicating a heavier reliance on aversive behavior cues in making marital satisfaction ratings.

Fourteen behavioral cues were listed by the judges in this study. Table 2 lists these cues and the percentage of judges who endorsed each one. Seven cues met the *a priori* endorsement criterion for inclusion in the analysis, and each taped interaction was scored for these cues. Agreement, Laugh, Humor, and Positive Physical Contact are included in the MICS, and data for these cues were taken from the original MICS coding of the tapes. Compromise was defined as a response-consequence unit of two MICS codes (Positive Solution followed by spouse's Agreement), and scores on

this cue were taken from the original MICS coding sheets. Talk Time Imbalance was defined as the ratio of the amounts of time each partner talked, with the larger number in the numerator. Attention was defined as the proportion of time one spouse visually attended the other's verbalizations. These latter two cues were scored individually by trained coders.

The intercorrelations of the seven cues, the judges' ratings, and the actual distressed/non-distressed status of the couples are presented in Table 3. One-tailed significance levels were computed for the correlations with the two criterion variables, where direction of correlation could be predicted *a priori*; two-tailed tests were computed for the intercorrelations of the seven cues. Please note that the intercorrelations of the seven cues were quite low.

A stepwise multiple regression analysis (Nie, Bent, & Hall, 1968) was computed with the seven cues as predictor variables and actual distressed/non-distressed status as the criterion variable. Talk Time Imbalance and Humor did not enter the equation. Table 4 lists the predictor variables in order of their entry into the equation; the multiple correlation (R), increase in R^2, and F ratio at each step; and the final regression coefficient (b) and the final standardized regression coefficient (β) for each variable. The final multiple correlation was .71. Application of the standard "shrinkage" formula (Guilford & Fruchter, 1973) yielded $R = .58$ ($p < .01$). These data indicate that the subjects were able to suggest behavioral cues useful in discriminating distressed and non-distressed couples.

A similar analysis was computed with the seven cues as predictor variables and the mean subjects' ratings of the couples as the criterion variable. Agreement did not enter this equation. Table 5 lists the pertinent data for this analysis. The final R was .72; the "shrunken" R was .59 ($p < .01$).

A comparison of these two regression equations shows substantial differences in the weightings of the cues to predict the two different criteria. This seems to indicate that the subjects, in making their ratings, weighted certain cues - particularly Talk Time Imbalance - too heavily, and others - such as Compromise and Attention - too lightly.

Discussion

There are several implications to be derived from the findings in this study. Due to the limits of this presentation, only a few can be briefly pointed out at this time.

Untrained judges were able to discriminate distressed and non-distressed couples at a significant but low level of accuracy, a finding consistent with previous research on similar tasks. The finding that a statistical combination of the judges' cues was much more accurate than the judge's judgments is also consistent with earlier research. A comparison of the multiple regression model of the judges' cue useage to the multiple regression model of ideal cue useage indicated that the judges apparently underweighted some of the good cues and grossly overweighted one non-discriminating cue, Talk Time Imbalance. Apparently, this latter cue is intuitively valued by the untrained, but it is misleading. It seems, then, that the low accuracy of the judges was at least partially due to non-optimal use of the behavioral cues they listed.

Secondly, two major differences were found between the interaction behaviors of distressed couples and non-distressed couples. Distressed couples compromised less and they attended to each other less. These results are consistent with the findings of Birchler et al. (1974) and Vincent (1972), mentioned earlier, and they also support the social learning formulation of marital satisfaction and distress proposed by Weiss, Patterson, and Hops (1973). This model has suggested that poor negotiation and problem-solving skills are an important component of marital distress. This contention is supported by the relatively low frequencies of Compromise and Attention displayed by the distressed couples in this study.

The overlap between the cues predictive of actual level of marital satisfaction in this study with the codes contained in the MICS lends further support to the utility of the MICS in assessing marital interaction. Only one of the seven cues analyzed in this study, Talk Time Imbalance, is very different from anything the MICS measures, and this cue was shown to be unrelated to level of marital satisfaction. This overlap indicates that the MICS represents the behaviors which non-professionals deemed to be important variables to measure in marital interactions, as well as the behaviors which a group of researchers deemed important. More important than this overlap, of course, was the finding that five cues identical or similar to MICS codes were useful in predicting couples' level of marital satisfaction.

The fact that the two "best" cues in this study were response-consequence units is worthy of special note. Most often, behaviorally oriented researchers tend to study only simple monadic behaviors. In many cases,

however, it seems that sequential dyadic cues, or response-consequence units, being more specific measures of behavior, would be better variables to study. This was demonstrated in the present investigation by the discriminative power of Compromise and Attention, both response-consequence units; the monadic components of which were not related to level of marital satisfaction.

Finally, the general methodological approach used here, of presenting judges with behavioral samples of persons in a situation of interest, asking them to list the behavioral cues which they used to make judgments on a variable of interest, and then measuring the frequencies of these cues and their relationship to the criterion, was considered profitable. It seems that this method could be useful in a wide variety of situations, especially any investigation of the behavioral components of traits, labels, diagnoses, or other classifications.

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TABLE 1

General Design: Distribution of Tapes by Groups of Judges

Tapes	Judges (10 per group)			
	Group 1	Group 2	Group 3	Group 4
Distressed Couples				
1, 2, 3	X			
4, 5, 6		X		
7, 8, 9			X	
10, 11, 12				X
Non-distressed Couples				
1, 2, 3	X			
4, 5, 6		X		
7, 8, 9			X	
10, 11, 12				X

Each group of 10 judges viewed tapes of 6 couples; 3 couples randomly selected from the distressed group and three couples randomly selected from the non-distressed group.

TABLE 2

Behavioral Cues and the Percentage of Judges (N = 40) Who Listed Each

Cue	Percent of Judges
Talk-Time Imbalance	52%
Attention	48%
Compromise	38%
Agreement	32%
Laugh	32%
Humor	30%
Positive Physical Contact	22%
Raised Voice	18%
Personal Reference	15%
Eye Contact	12%
"Nervous" Movement	8%
Negative Reference to Spouse	8%
Positive Reference to Spouse	5%
Sighing	2%

TABLE 3

Intercorrelations of the Seven Behavioral Cues, True Level of Marital Satisfaction, and the Judges' Ratings of Marital Satisfaction

	Judges' Ratings	Talk Time Imbalance	Attention	Humor	Laugh	Positive Physical	Agree	Compromise
Marital Satisfaction	.654***	-.073	.385*	.076	-.288	.209	-.009	.546***
Judges' Ratings		-.477**	.297	.006	-.412**	.153	-.045	.224
Talk Time Imbalance			-.111	-.029	.025	-.061	-.235	.037
Attention				.043	-.121	-.226	-.360	.087
Humor					.208	-.111	.051	.304
Laugh						.209	.114	.005
Positive Physical							.020	.394
Agreement								.123

*$p < .05$, one tailed

**$p < .025$, one tailed

***$p < .005$, one tailed

TABLE 4

Summary of Stepwise Regression, Behavioral Cues as Predictors of True Level of Marital Satisfaction

Variable	$\underline{R}$	Increase in $\underline{R}^2$	$\underline{F}$ ratio	Final b	Final β
Compromise	.546	.298	9.34**	.107	.425
Attention	.642	.114	7.37**	1.379	.395
Laugh	.690	.063	6.05**	- .024	- .294
Positive Physical	.705	.021	4.69**	.473	.189
Agreement	.712	.010	3.70*	.012	.111

Note.--Constant = -.239

*$\underline{p}$ < .025

**$\underline{p}$ < .01

TABLE 5

Summary of Stepwise Regression, Behavioral Cues as Predictors of Rated Marital Satisfaction

Variable	R	Increase in R^2	F ratio	Final b	Final β
Talk-Time Imbalance	.477	.227	6.47**	- .958	- .427
Laugh	.622	.160	6.64**	- .059	- .436
Compromise	.668	.059	5.38**	.044	.107
Attention	.691	.031	4.35**	1.352	.237
Positive Physical	.715	.033	3.76**	.967	.237
Humor	.717	.004	3.00*	.034	.068

Note.--Constant = 4.212

*$p < .05$

**$p < .025$